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(54) Foam filled plant pot and method of producing the same

(57) A plant pot 10 containing a quantity of ballast material 14 for example stone chips is filled with a rigid urethane foam 18. As the foam 18 rises it contacts a layer of barrier material 22 which produces a controlled surface profile for the foam 18. The barrier material 22 has an adhesively coated upper surface 24 which will therefore retain thereon a surfacing material 26 for example stone chips or peat. An artificial flower stem (not shown) can be pushed through the barrier material 22 and will be supported by the foam 18, the surfacing material 26 producing a pleasing and realistic surface appearance. The invention also provides a method of producing such a foam filled plant pot.

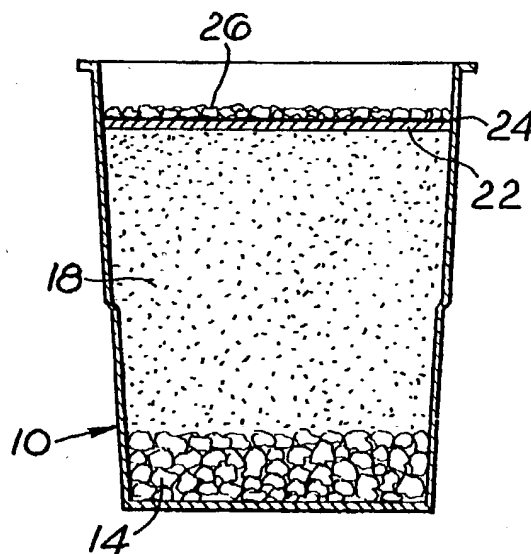
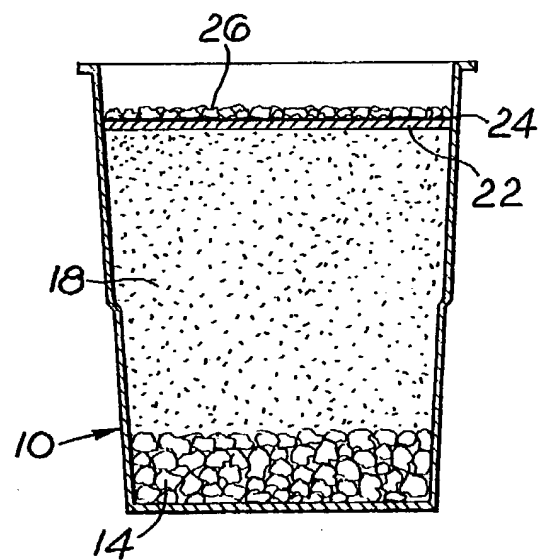
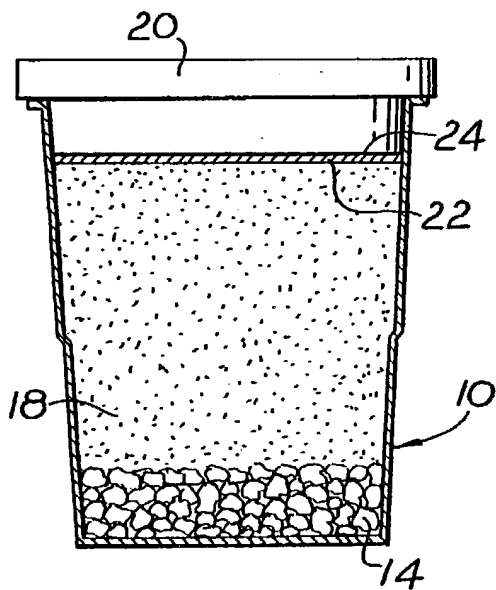
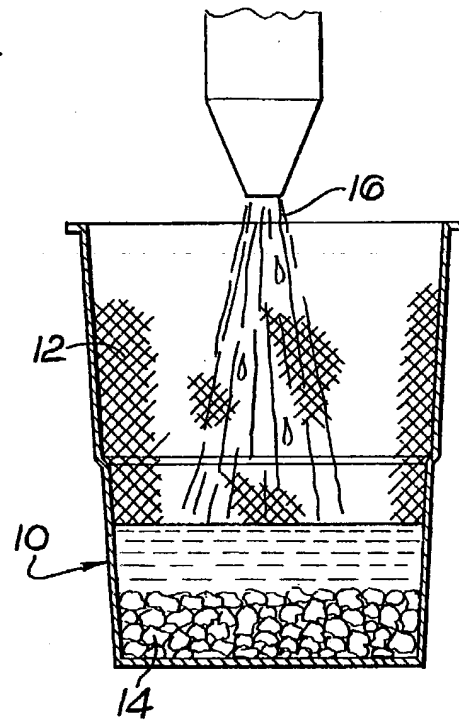
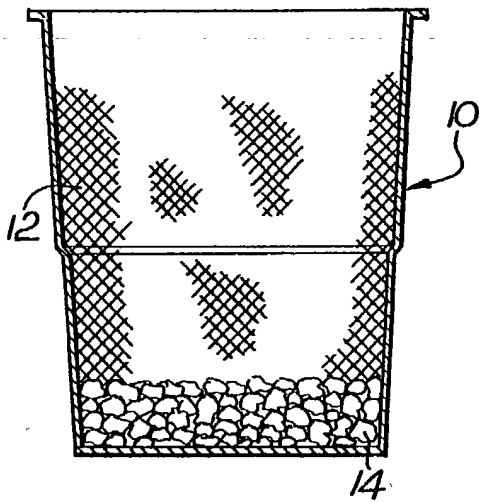


Fig. 4

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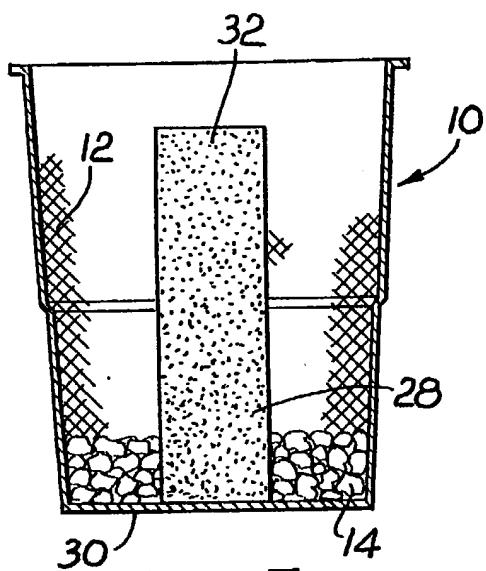


Fig. 5

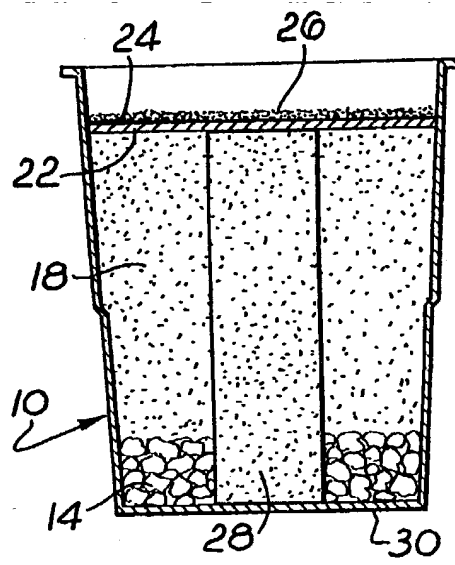


Fig. 6

SPECIFICATION

Foam filled plant pot and method for producing the same

5 This invention relates to foam filled plant pots and a method for producing the same.

Imitation flowers of polyester or other fabric are commonly displayed by inserting the flowers' stems into a medium which is contained in a pot or vase.

10 The medium contained in the pot can be a variety of types, for example a water based plaster could be used, this having the advantage that its weight greatly increases the stability of the pot or vase. However such a material does not lend itself to

15 production line techniques. An alternative method is to provide a collar of plastics, for example polystyrene or a sheet material such as cardboard. This method is not very satisfactory as ballast is required to provide the pot with stability. This ballast is not secured by the collar and therefore can escape from the pot. Furthermore the collars themselves although they are often painted to simulate stone or earth are not of a generally pleasing appearance.

25 A further alternative is to fill the vase or pot with a rigid urethane foam. Although this method also required the use of a ballast material the adhesive properties of the foam are effective to retain the ballast securely in the vase or pot. Furthermore, the foam can be provided with a surface material such as stone chips or peat in order to give a more realistic and pleasing appearance. A problem arises with this method in that in order to retain the surface material it has to be applied to the foam before the foam has fully solidified. As a result a dense surfacing material for example stone chips can sink through the foam allowing the foam surface to show through. Further the foam when allowed to rise freely produces an irregular and aesthetically unattractive surface. Furthermore as the foam is rising the ballast in the pot or vase can be displaced causing an obstruction to the stems of the flowers when they are inserted into the foam.

In order to modify this irregular surface a conventional technique is to use a plate to restrict the rising of the foam and thereby produce a controlled surface. However, the plate forces the rising foam through the surface material thereby affecting the finished appearance of the surface.

50 An object of the present invention is therefore a foam filled plant pot having a controlled surface profile to which is adhered a surface material without any penetration of said surface material by the foam.

55 A further object of the present invention is a method of producing a foam filled plant pot having a controlled surface profile to which is adhered a surface material.

With the first object in view the present invention provides a foam filled plant pot comprising a pot or vase having a bottom layer of ballast material, on top of which is a layer of a rigid urethane foam, the foam being topped by a barrier material having an adhesive coating on its exposed upper surface to

65 which can be adhered a surfacing material.

Preferably the layer of ballast material is a quantity of stone chips held in place by the urethane foam.

70 Advantageously the barrier material is a paper sheet having an adhesive coat on at least one surface.

Alternatively the barrier material is a thin layer of adhesive coated flexible foam.

75 Preferably the inner surface of the pot or vase is abraded thereby improving the adhesion of the foam to the pot or vase.

Advantageously strips of adhesive tape are provided on the inner surface of the pot or vase to adhere the foam to the pot or vase.

80 Preferably the barrier material is pre-coated with the surface material prior to contact with the foam.

Advantageously a quantity of low density foam chips are placed on top of the ballast.

85 Preferably a small block of pre-cut foam is inserted into the pot or vase and is held in a substantially central position relative to the base of the pot or vase by the ballast.

Advantageously the block is a small cube or cylinder of pre-cut foam.

90 With the second object in view the present invention provides a method of producing a foam filled plant pot comprising the steps of placing a quantity of a ballast material in a pot or vase, injecting a quantity of a rigid urethane foam chemical into the pot or vase, placing a lid carrying a layer of barrier material over the pot such that the barrier material is allowed to contact the urethane foam as it rises, removing the lid leaving the barrier material in place on top of the foam applying an adhesive coat to the barrier material's upper surface and coating the barrier material with a surfacing material.

95 Advantageously the adhesive coat is applied to the barrier material before the barrier material contacts the rising urethane foam.

100 Preferably the inner surface of the pot is abraded prior to the introduction of the rigid urethane foam chemical to improve the adhesion of the foam to the pot or vase.

Advantageously strips of adhesive tape are provided on the inner surface of the pot or vase prior to the introduction of the rigid urethane foam chemical to improve the adhesion of the foam to the pot or vase.

105 Preferably the barrier material is coated with the surfacing material prior to contacting the barrier material with the urethane foam.

Advantageously a small block of pre-cut foam is inserted into the pot or vase in a substantially central position relative to the base of the pot or vase prior to the injection of the urethane foam, the block being held in place by the ballast.

110 Preferably the block is of a cubic or cylindrical shape.

The invention will be described further by way of example with reference to the accompanying drawings in which:—

Fig. 1 is a part sectional view of a known plant pot having a quantity of ballast provided inside it in accordance with the preferred method of the

130 invention;

Fig. 2 is a view generally similar to Fig. 1 showing the injection of a rigid urethane foam chemical into the plant pot;

Fig. 3 is a view generally similar to Fig. 1 and Fig. 2 showing a lid carrying a layer of barrier material positioned on the plant pot;

Fig. 4 is a view generally similar to Fig. 3 showing a first preferred embodiment of a finished foam filled plant pot;

Fig. 5 is a view generally similar to Fig. 1 showing a second preferred embodiment of the invention; and

Fig. 6 is a view generally similar to Fig. 4 showing a second preferred embodiment of the foam filled plant pot.

Referring firstly to Figs. 1 to 4 of the drawings a preferred method of producing a foam filled plant pot according to the invention comprises the following steps. A plastic plant pot 10 of known configuration has its inner surface 12 abraded or roughened. A quantity of stone chips 14 are placed in plant pot 10 so as to provide ballast to increase the pot's stability. (Fig. 1) A measured quantity of a rigid urethane foam chemical 16 is injected into the pot 10 and allowed to rise producing a foam filler 18 in the pot 10. (Fig. 2) A lid 20 carrying a layer of barrier material 22 is positioned over the pot 10 such that the rising foam 18 contacts the barrier material 22 and is constrained by the barrier material 22 into a controlled surface profile. (Fig. 3) Preferably the barrier material 22 is a sheet of paper having an adhesive layer 24 on its upper surface. As the paper is insufficiently porous to allow the foam 18 to rise through the paper and hence a substantially flat surface profile is produced. When the foam 18 has risen to its maximum level the lid 20 is removed leaving the barrier material 22 in place adhesive side uppermost. The foam 18 is adhered to the pot 10 by virtue of the adhesive properties of the foam 18 and the abrasions on the inner surface 12 of the pot 10. A surfacing material 26 for example stone chips or peat is applied to the adhesive layer 24 which thus retains the surfacing material 26 on the barrier material 22. (Fig. 4). An artificial flower's stem (not shown) can be pushed through the paper layer 22 into the foam 18 so that the flower (not shown) is supported by the foam 18. In this manner a pleasing flower arrangement can be produced.

A second embodiment of the invention is shown in Fig. 5 and 6. Parts identical to those of the first embodiment are given the same reference numeral. A plant pot 10 has an abraded inner surface 12 and placed inside of it a quantity of ballast 14 for example stone chips. A block 28 of pre-cut foam is positioned substantially centrally of the pot's base 30 and is held in place by the ballast 14. (Fig. 5). The block 28 is of a height such that its upper surface 32 is level with the foam 18 and in contact with the barrier material 22. The block 28 thus provides a support for the barrier material 22. In a manner identical to that of the first embodiment a rigid urethane foam chemical 16 is injected into the pot 10, allowed to rise as a foam 18 and contact a barrier material 22 carried on a lid 20. The lid 20 is removed leaving the barrier material 22 in place with an

adhesive coated surface 24 uppermost. A surfacing material 26 for example stone chips or peat is applied to the adhesive surface 24. The presence of the block 28 allows the insertion of long stemmed artificial flowers (not shown) without the stems contacting the ballast 14.

A particular advantage of a foam filled plant pot produced according to the invention is that the plant pot and base can be packaged or stored on its side without loss of either the ballast or the surfacing material.

It is to be understood that the foregoing is only illustrative and not restrictive of the scope of the invention and variations may be made thereto. For example the barrier material can be a thin layer of a flexible foam with an adhesive coating. Furthermore the surfacing material could be applied to the barrier material prior to its application to the rising foam. The abrasions on the inner surface of the pot are not strictly necessary and could be omitted or adhesive tapes attached to the plant pot's inner surface could be used. Alternatively the ballast layer can be of any high density material other than stone chips or a quantity of low density foam chips or scraps could be used to bulk out the urethane foam. A tube could be provided through the foam and the barrier layer to allow flower stems to be inserted into the foam body more easily. The adhesive coating could be applied to the barrier material after the barrier material has been brought into contact with the rising urethane foam. The block of pre-cut foam provided in the second embodiment of the invention could be of any convenient height though this is advantageously higher than the depth of the ballast material. Other variations are also possible.

CLAIMS

1. A foam filled plant pot comprising a pot or vase having a bottom layer of ballast material, on the top of which is a layer of a rigid urethane foam, the foam being topped by a barrier material having an adhesive coating on its exposed upper surface to which is adhered a surfacing material.

2. A foam filled plant pot as claimed in claim 1 in which the ballast material is a quantity of stone chips held in place by the urethane foam.

3. A foam filled plant pot as claimed in claims 1 or 2 in which the layer of barrier material is a paper sheet having an adhesive coat on at least one surface.

4. A foam filled plant pot as claimed in claims 1 or 2 in which the layer of barrier material is a thin layer of adhesive coated flexible foam.

5. A foam filled plant pot as claimed in any of the preceding claims in which the inner surface of the pot or vase is abraded thereby improving the adhesion of the foam to the pot or vase.

6. A foam filled plant pot as described in any preceding claim in which strips of adhesive tape are provided on the inner surface of the pot or vase to adhere the foam to the pot or vase.

7. A foam filled plant pot as claimed in any preceding claim in which the barrier material is pre-coated with the surfacing material prior to contact with the foam.

8. A foam filled plant pot as claimed in any preceding claim in which a quantity of low density foam chips are placed on top of the ballast and within the foam layer.
- 5 9. A foam filled plant pot as claimed in any preceding claim in which a small block of pre-cut foam is inserted into the pot or vase and is held in a substantially central position relative to the pot or vase's base by the ballast material.
- 10 10. A foam filled plant pot as claimed in any preceding claim in which the block of pre-cut foam is cubic or cylindrical in shape.
11. A method of producing a foam filled plant pot comprising the steps of placing a quantity of a
- 15 ballast material in a pot or vase, injecting a quantity of a rigid urethane foam chemical into the pot or vase, placing a lid carrying a layer of barrier material over the pot such that the barrier material is allowed to contact the urethane foam as it rises, removing
- 20 the lid leaving the barrier material in place on top of the foam, applying an adhesive coat to the barrier material's upper surface and coating the barrier material with a surfacing material.
12. A method as claimed in claim 11 in which the
- 25 inner surface of the pot or vase is abraded prior to the introduction of the rigid urethane foam chemical to improve the adhesion of the foam to the pot or vase.
13. A method as claimed in claim 11 in which
- 30 strips of adhesive tape are provided on the inner surface of the pot or vase prior to the introduction of the rigid urethane foam chemical to improve the adhesion of the foam to the pot or vase.
14. A method as claimed in claims 11, 12 or 13 in
- 35 which the barrier material is coated with the surfacing material prior to contacting the barrier material with the rising urethane foam.
15. A method as claimed in any preceding claim in which a small block of pre-cut foam is inserted into
- 40 the pot or vase in a substantially central position relative to the base of the pot or vase prior to the injection of the urethane foam, the block being held in place by the ballast material.
16. A method as claimed in any preceding claim in
- 45 which the block is cubic or cylindrical in shape.
17. A method as claimed in any preceding claim in which the adhesive coat is applied to the barrier material before the barrier material contacts the urethane foam.
- 50 18. A method of producing a foam filled plant pot substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.
19. A foam filled plant pot substantially as
- 55 hereinbefore described with reference to and as illustrated in the accompanying drawings.